

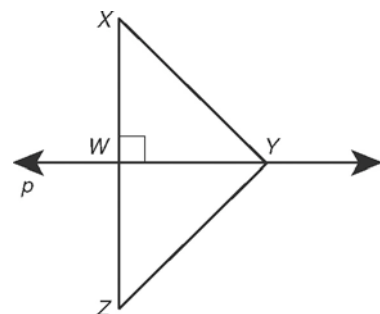
LESSON
5-1

Perpendicular and Angle Bisectors

1. Given that line p is the perpendicular bisector of XZ and $XY = 15.5$, find ZY .

2. Given that $XZ = 38$, $YX = 27$, and $YZ = 27$, find ZW .

3. Given that line p is the perpendicular bisector of \overline{XZ} ; $XY = 4n$, and $YZ = 14$, find n .

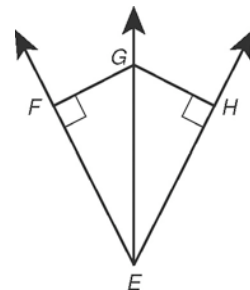


4. Given that $XY = ZY$, $WX = 6x - 1$, and $XZ = 10x + 16$, find ZW .

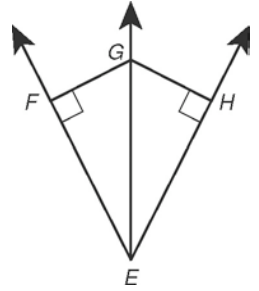
5. Given that $FG = HG$ and $m\angle FEH = 55^\circ$, find $m\angle GEH$.

6.

Given that \overline{EG} bisects $\angle FEH$ and $GF = \sqrt{2}$, find GH .



7. Given that $\angle FEG \cong \angle GEH$, $FG = 10z - 30$, and $HG = 7z + 6$, find FG .



8.

Given that $GF = GH$, $m\angle GEF = \frac{8}{3} a^\circ$, and $m\angle GEH = 24^\circ$, find a .

Write an equation in point-slope form for the perpendicular bisector of the segment with the given endpoints.

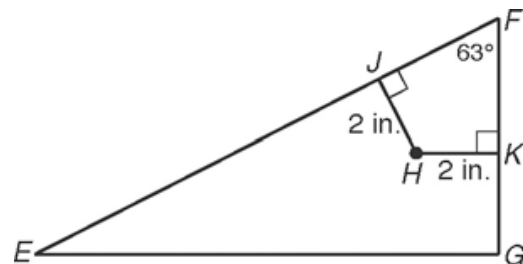
9. $T(0, -3)$, $U(0, 1)$

10. $A(-1, 6)$, $B(-3, -4)$



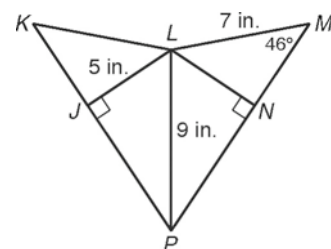
11.

A piece of wood for a birdhouse is shown. Point H is the center of a ventilation hole that is to be drilled 2 inches from \overline{FE} and \overline{FG} . If you drew \overline{FH} , what would be $m\angle EFH$? Explain.



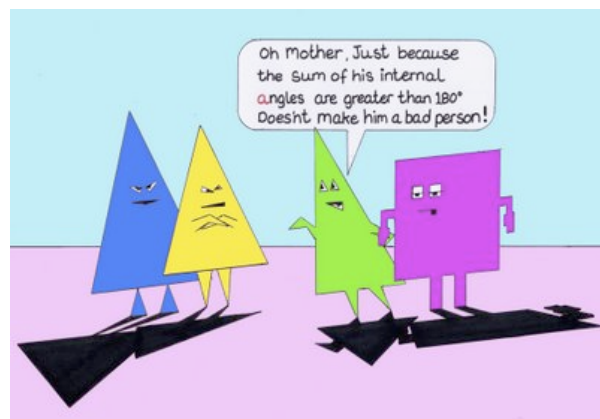
12. _____ \overline{PL} is the angle bisector of $\angle KPM$. Which can you conclude from this statement?

- A $LN = 5$ in.
- B $LK = 7$ in.
- C $m\angle K = 46^\circ$
- D $m\angle JLK = 44^\circ$



13. _____ \overline{LJ} is the perpendicular bisector of \overline{KP} Which can you conclude?

- F $m\angle K = 46^\circ$
- G $m\angle K = 44^\circ$
- H $KL = 9$ in.
- J $KL = 7$ in.



14.

\overline{LM} has endpoints $L(6, 10)$ and $M(2, 8)$.
What is the x-intercept of the line that is
the perpendicular bisector of \overline{LM} ?

15.

A **chord** is a segment whose endpoints are
on a circle. Write an equation in slope-intercept
form for the perpendicular bisector of chord \overline{AB} .

